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EXAMINER

SHAPIRO, LEONID

ART UNIT PAPER NUMBER

2673

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/524,491

Applicant(s)

MAGUIRE, FRANCIS J

Examiner

Leonid Shapiro

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 07 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) g.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 14-15 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original disclosure is not supported added material as follows: "Support is itself movable by another actuator and other actuator is responsive to a command signal for moving support".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 5-6, 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Helman (US Patent No. 5,791,735) in view of Reichlen (US Patent No. 6,396,497 B1).

As to claim 1, Helman teaches apparatus, comprising: a support for supporting a user in viewing images in a standing, seated, or reclining position (See Fig. 1-2, items 12, 14, 22, in description See Col. 7, Lines 50-67); and a movable headrest on or with respect to support, for

Art Unit: 2673

supporting a head of user, wherein the headrest comprises side cushions, or both rear and side cushions, for providing the only points of contact between the user's head and the headrest (See Fig. 1-2, items 12, 14, 22, in description See Col. 7, Lines 50-67).

Helman does not show a head of user in executing head movements to view images from changing directions.

Reichlen teaches users can change the portion of the view space shown by rotating their heads (See Fig. 1-2, items 24, 26, 28, 40, 34 in description See Col. 5, Lines 33-67 and Col. 6, Lines 1-38). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the navigation method of Reichlen in the Helman apparatus in order to perform certain computer functions without requiring use of keyboard or mouse (See Col. 2, lines 49-52 in Reichlen reference).

As to claim 2, Reichlen teaches how a user can navigate through the visual space in response to head motion (See Fig. 1, items 10, 12, , 22, in description See Col. 5, Lines 33-55).

As to claim 5-6, Helman does not teach display with sensor for sensing movements of headrest from a changing direction.

Reichlen shows this kind of sensor (See Fig. 1, items 24, 26, 28, 30, in description See Col. 5, Lines 33-55) and pointed that the reference point for head movement sensor could be located at the base of the chair (See Col. 5, Lines 42-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the sensor of Reichen in the Helman apparatus in order to perform certain computer functions without requiring use of keyboard or mouse (See Col. 2, lines 49-52 in Reichlen reference).

Art Unit: 2673

As to claim 10, Helman teaches apparatus, comprising: a headrest and a support for supporting a user in viewing images in a reclining posture with a head of user resting on headrest mounted on or with respect to support (See Fig. 1-2, items 12, 14, 22, in description See Col. 7, Lines 50-67); headrest with movable headrest for supporting head of the user in executing head movements in a changing of head of user (See Fig. 1-2, items 12, 14, 22, in description See Col. 7, Lines 50-67).

Helman does not show a viewing images provided from a correspondingly changing direction of view, head and headrest moving together in changing direction with respect to user.

Reichlen teaches users can change the portion of the view space shown by rotating their heads (See Fig. 1-2, items 24, 26, 28, 40, 34 in description See Col. 5, Lines 33-67 and Col. 6, Lines 1-38). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the navigation method of Reichlen in the Helman apparatus in order to perform certain computer functions without requiring use of keyboard or mouse (See Col. 2, lines 49-52 in Reichlen reference).

3. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US Patent No. 5, 695, 406) in view of Reichlen.

Park teaches moveable headrest for supporting a user's head (See Fig. 1, items 12, 14, 16, in description See Col. 5, Lines 4-10).

Park does not teach about a sensor coupled to a moveable headrest responsive to head movements of the user, for providing a sensed signal having a magnitude indicative of different directions-of-view, a reality engine responsive to a sensed signal, for providing an image signal

Art Unit: 2673

indicative of a sequence of images from different directions-of-view selected according to sensed signal and a display, responsive to image signal, for providing sequence of images for viewing by user from different directions-of-view.

Reichlen teaches apparatus with reality engine (computer) with sensor attached to the user's head (See Fig. 1-5, item 24, 34, 36, 42, 56, 62, 50, in description See Col. 5, Lines 33-67 and Col. 6 and 7) and pointed that the reference point for head movement sensor could be located at the base of the chair (See Col. 5., Lines 42-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the navigation method of Reichen in the Park apparatus in order to perform certain computer functions without requiring use of keyboard or mouse (See Col. 2, lines 49-52 in Reichlen reference).

4. Claims 3-4, 7, 11-13, rejected under 35 U.S.C. 103(a) as being unpatentable over Helman and Reichen, as aforementioned in claims 1,2 and 10 in view of Zavracky et al. (US Patent No. 5,673,059)

As to claim 3-4, 7, 11-12, Helman and Reichlen do not teach an actuator for moving moveable headrest.

Zavracky et al. shows the actuator witch used with head-mounted display and could apply to the headrest of Park (See Fig. 19, item 1372, in description See Col.19, Lines 28-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the actuator of Zavracky et al. in Helman and Reichlen apparatus in order to enhance the virtual reality experience.

Art Unit: 2673

As to claim 13, Helman does not teach display with sensor for sensing movements of headrest from a changing direction.

Reichlen shows this kind of sensor (See Fig. 1, items 24, 26, 28, 30, in description See Col. 5, Lines 33-55) and pointed that the reference point for head movement sensor could be located at the base of the chair (See Col. 5, Lines 42-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the sensor of Reichen in the Helman apparatus in order to perform certain computer functions without requiring use of keyboard or mouse (See Col. 2, lines 49-52 in Reichlen reference).

5. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Reichlen in view of Helman and further in view of Zavracky et al.

Reichlen teaches apparatus with a reality engine (computer), responsive to a start command signal, for providing an image signal indicative of a sequence of images from different directions-of-view and providing a display, responsive to image signal and display, for providing sequence of images for viewing by the user from different directions-of-view (See Fig. 1-5, item 24, 34, 36, 42, 56, 62, 50, in description See Col. 5, Lines 33-67 and Col. 6 and 7).

Reichlen has failed to teach headrest, however Helman teaches a moveable headrest, attached to support (See Fig. 2, items 14,30,28, in description See Col. 7, Lines 50-66).

Reichlen and Helman do not teach an actuator, responsive to actuator command signal, for moving a headrest supporting a user's head with movements corresponding to different directions-of-view.

Art Unit: 2673

Zavracky et al. shows the actuator witch used with head-mounted display and could apply to the headrest of Helman (See Fig. 19, item 1372, in description See Col.19, Lines 28-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the headrest of Helman and actuator of Zavracky et al. in Reichen apparatus in order perform certain computer functions without requiring use of keyboard or mouse (See Col. 2, lines 49-52 in Reichlen reference).

Response to Amendment

6. Applicant's arguments filed on 12-26-02 with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Response to Arguments

7. Applicant's arguments filed 12-26-02 have been fully considered but they are not persuasive.

Applicant stated on page 7 in arguments related to the claim 8, that the reference of Reichlen does not feel this gaping discrepancy between Park and the present claimed invention. However, Reichlen pointed that that the reference point and receiver for the sensor can be located at the base of the chair (support) and transmitter mechanically coupled to the HMD (See Col. 5, Lines 42-45), which is moving together with headrest of Park or Helman.. Therefore, it will be obvious to the ordinary skill in the art to move transmitter to the headrest of Park or Helman in order perform certain computer functions without requiring use of keyboard or mouse (See Col. 2, lines 49-52 in Reichlen reference).

Art Unit: 2673

As to claim 9 on the page 8-9, item 6 of the "Office Action Summary" was corrected, references to motor and actuator command signal were removed and motivation was clearly defined.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Telephone inquire


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

Art Unit: 2673

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

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March 5, 2003


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER ESCO